C L A I M S:

1. A loudspeaker of the type having sensor means for the determination of the radiation resistance of the diaphragm, expressed by the velocity/acceleration of the loudspeaker diaphragm and the sound pressure in a distance from the diaphragm, and thereby, via a signal processing unit, provide a control signal to a filter unit adjusting the performance of the loudspeaker in an adaptive manner to the acoustical characteristics of the listening room, said sensor means comprising a microphone for detecting said sound pressure, characterized in that the sensor equipment comprises microphone means for detecting the sound pressure in at least two points differently spaced from the diaphragm, and that carrier means are provided enabling one same microphone to be effectively and successively exposed to the sound pressure in each of the at least two points.

2. A loudspeaker according to claim 1, in which the carrier means are operable to shift the microphone between said two points.

3. A loudspeaker according to claim 2, in which the carrier means are rotatable.

4. A loudspeaker according to claim 2, in which the position of the microphone is shiftable by a translatoric displacement along the carrier means.

5. A loudspeaker according to claim 1, in which a microphone is mounted in a staionary position and is acoustically connected with a sound guide tube having a free end located spaced from the diaphragm, said tubee being telescopically or otherwise adjustably arranged so as to enable its free end to be shiftable between positions differently spaced from the diaphragm.

6. A loudspeaker according to claim 1, in which a microphone is mounted in a stationary position and operatively coupled to the sound field through tube means having free ends located at positions differently spaced from the dia-

phragm, valve means being provided for acoustically connecting the microphone selectively with either of said free ends.

7. A loudspeaker according to claim 1, in which a first microphone is stationarily mounted in a first position and a second microphone is mounted so as to be physically displaceable between at least one second position and said first position, in close proximity to the first microphone in that position, both of the microphones being connected to a calibration unit in said signal processing unit.

8. A loudspeaker according to claim 1, in which two microphones are arranged in connection with a carrier system enabling the two microphones to be operatively swapped between the two positions and, optionally, further positions.

9. A loudspeaker according to claim 8, in which the microphones are mounted on a rotatable carrier so as to be interchangeable by rotation of the carrier.

10. A loudspeaker according to claim 7, in which the microphones are arranged on a support so as to be shiftable by a translatoric movement therealong.

11. A loudspeaker according to claim 5, in which two microphones are mounted in stationary positions, each selectively connectable with sound guide tubes having respective free ends located differently spaced from the diaphragm.

12. A loudspeaker according to claim 1, in which one or more microphones are shiftable between three or more different positions differently spaced from the loudspeaker diaphragm.

13. A loudspeaker according to claim 1, in which a first measuring point is located spaced 1-5 cm from the diaphragm and a second measuring point is spaced 3-20 cm from the diaphragm.

14. A loudspeaker according to claim 1, in which the sound pressure is detected in a first point relatively close to the diaphragm, e.g. 1-2 cm, and in a second point further spaced from the diaphragm, and in which the signal processing unit operates to calculate the real part of the product of j (square root of minus 1) and the ratio between the sound pressures in the second and the first point, respectively.

15. A loudspeaker according to claim 1, in which the sound pressure is detected in two points differently spaced from the diaphragm, and in which the signal processing unit operates to calculate the real part of the product of j and the ratio between a sound pressure P and the difference between the sound pressures in the said first and second points, P being either one of the two measured pressures or a mean valve thereof.